

EVALUATION OF PROBABLE BENEFITS AND COSTS

CHAPTER 173-173 WAC

REQUIREMENTS FOR MEASURING AND REPORTING WATER USE

RCW 34.05.328(1)(c) requires that, prior to the adoption of certain rules, a determination be made that "...the probable benefits of the rule are greater than its probable costs, taking into account both the qualitative and quantitative benefits and costs and the specific directives of the statute being implemented." This discussion documents that determination in the case of the above referenced rule.

BACKGROUND

The development of this proposed rule arises from the following sources:

Statutory directives enacted by the Washington State Legislature in 1993 – The Legislature amended Chapter 90.03.360 directing Ecology to require metering or other measurement of subsequently issued surface water diversion right permits. The Legislature also limited Ecology's discretionary authority to require metering or measuring of other surface water rights.

1. Ecology was directed to require metering or other measurement of new and existing diversions greater than one cubic foot per second (cfs) in volume, and;
2. for all diversions (regardless of size) from waters where salmonid stock status is determined to be depressed or critical by the Washington State Department of Fish and Wildlife. Ecology was further directed to prioritize implementation of this requirement ahead of other compliance activities where delay might cause a decline in wild salmonids.
3. Additionally, Ecology was granted discretionary authority to require reporting of water use information.

Statutory language giving Ecology authority and discretion to require measuring and reporting of ground water withdrawals did not change in 1993. (See RCW 90.44.050, 90.44.250, and 90.44.450.)

Judicial Findings – 2000 – Suit was brought in Thurston County Superior Court by American Rivers and others contending that existing administrative rule provisions (particularly the section regarding who must measure and when, see WAC 508-64-050) dealing with measurement of water diversions and withdrawals was inadequate for implementation of existing statutes and that Ecology’s overall implementation of RCW 90.03.360 was likewise inadequate. The decision of the Court generally upheld these contentions.

A compliance plan resulting from these findings was developed by Ecology and agreed to by the plaintiffs in the case. It includes adoption of a new or revised administrative rule by Ecology no later than December 31, 2001 (this proposal). Additionally, metering or other approved measurement (generally with annual reporting to Ecology) of both surface water diversions and groundwater withdrawals (in potential hydraulic continuity with salmonid-supporting surface waters) capturing eighty percent of the water use in sixteen river basins identified by Ecology and the Governor’s Joint Natural Resources Cabinet where the status of wild salmonid stocks merits priority attention is to be achieved by no later than December 31, 2002.¹

DISCUSSION OF BENEFITS

In view of the statutory mandates and judicial findings described above, benefit magnitudes and their relationships to costs verge on irrelevance. The Legislature made an implicit judgement (on a policy level, at least) that the benefits of requiring metering or other measurement of diversions and withdrawals exceed costs – at least for diversions in excess of one cfs and in cases where wild salmonid stocks are distressed or critical.

The difficulty of addressing quantitative measures of benefits in this case is heightened by our virtually total uncertainty about what may occur, and where/when it might occur, as a result of the proposed rule. It is reasonable to conclude that diversions or withdrawals in excess of permitted amounts (or below permitted amounts) will be identified, but we have no way of predicting how much water may be involved, in what basins it may be discovered, or to what use(s) it might be put. There appears to be an inherent presumption that much of this water will be allocated to fishery habitat improvement (and other instream values) via instream flows – but there are alternatives.

¹ It is important that readers note that the actions described here are a “compliance plan” for responding to the orders of the Court. Full implementation of the relevant statutory requirements, and development of an associated compliance plan, will occur in future years.

Some of these include more complete satisfaction of existing rights not getting their full, permitted amount, new out-of-stream consumptive uses (irrigation, municipal, industrial etc.), emergency supplies during future drought periods, and others. Each of these has associated benefits, but without knowledge of the options chosen, or the mix of them, little can be said about aggregate social benefits or their relationship to aggregate social costs.

If we confine our attention to fishery enhancement, we are still hampered by the uncertainties described above. However, some insight into potential benefit magnitudes can be gained by examining the results of analyses conducted in Washington basins where water resources management programs have been recently established or are under consideration. Two examples are the Lower/Upper Skagit (WRIA 3 and 4) and the Methow (WRIA 48) Basins.

In the first of these, an instream resources protection program rule was adopted in the spring of 2001. An analysis² conducted in support of that rule identified potential fishery enhancement benefits ranging from \$3.1 million to \$9.4 million (discounted present value), with the range endpoints depending on the assumed timing of periods of regulation.

The second analysis³ was prepared in support of a Water Resources Management Program rule under development for the Methow Basin during the mid to later 1990s. The rule was still in development when Endangered Species Act listings for Basin steelhead and, later, spring chinook salmon were issued. As a result of these listings, the thrust of the program development process changed, and the study cited here never progressed beyond draft status. The preliminary fishery enhancement benefits estimated for this study amounted to some \$4.4 million to \$18.1 million (discounted present value, 1995 dollars), with the range endpoints determined by the species enhanced and their utilization of potential habitat in the mainstem Methow River and its principal tributaries.

Please note that these values are not presented as estimates of probable benefits attributable to the rule proposed here. Rather, they are cited as illustrations of the possibility of achieving significant benefits from one potential use of newly allocable water supplies that may result from adoption and implementation of the proposal.

DISCUSSION OF COSTS

Direct costs incurred by the regulated community can be addressed with some degree of precision. Information regarding the installed capital, operation and maintenance, and

² *Evaluation of Probable Benefits and Costs, Chapter 173-503 WAC, Instream Resources Protection Program, Lower and Upper Skagit Water Resources Inventory Area (WRIA 3 and 4)*. Available on request from the Department of Ecology.

³ *Chapter 173-548A, Water Resources Management Program for the Methow River Basin, WRIA 48, Probable Benefits and Costs*. Draft Manuscript available on request from the Department of Ecology.

recording/reporting costs of a variety of metering or measurement alternatives was collected by Ecology staff during the development of this proposed rule.⁴

For reasons described below, it is not possible to provide a single-valued estimate of these costs. However, there is reasonable basis for concluding that the actual costs likely to be incurred by the regulated community will fall within a range bounded by \$1.5 million and \$5.7 million (discounted present values, 2001 dollars).⁵ Factors governing the final position within this range include:

1. The number of metering or measuring devices actually required – Ecology records indicate that some individuals, families, or other entities hold multiple rights to divert or withdraw water. To the extent that these may apply to a single source and place of diversion, a single meter or measurement system may suffice.
2. The size distribution of diversions or withdrawals – Available information indicates that measurement of larger diversions requires larger, more expensive devices or systems than do smaller diversions.
3. The extent of existing metering or measurement – Some diversions or withdrawals are already being measured, either as a condition of a water right permit or for other reasons. To the extent that these systems and processes satisfy the requirements of the proposed rule (or can be readily adapted to do so), additional compliance costs may not be required or – if required – may not be large.
4. The choice of devices or systems – A number of alternative devices or systems are available for measurement of both large and small, open channel and enclosed pipeflow diversions. These are often distinguished by the amount of “accessory” equipment and/or automation of recording or reporting features. Choices among these made by individuals, businesses, and public entities will govern individual and aggregate compliance costs.
5. The extent of use of non-metering systems or approaches – The proposal allows for non-metering alternatives to measurement of diversions or withdrawals as long as they satisfy the requirements of the rule (for example, estimation based on power consumption). In general, these may be less costly than physical devices or systems.

⁴ The analysis described in the Small Business Economic Impact Statement and in this section is based on that information.

⁵ These values pertain to the sixteen basins being addressed in Ecology’s compliance with the orders of the Court.

CONCLUSIONS

As the above notes indicate, and a careful reading of the proposed rule verifies, Ecology has made every reasonable effort to incorporate compliance alternatives and flexibility in their use into the proposed rule. Statutory directives and judicial findings militate against exercise of a “no action” option. However, every effort has been made to provide the regulated community with opportunities to comply with the essential requirements of the proposed rule as efficiently and economically as possible. In that light, it can be concluded that the probable benefits of the proposed rule are likely to exceed its probable costs to the extent that existing requirements and constraints allow.

NOTE

Persons wishing to obtain copies of the analyses cited in this document may contact:

William Bafus
Economic and Regulatory Research
Washington State Department of Ecology
P. O. Box 47600
Olympia, WA 98504-7600

telephone: (360) 407-6939
fax: (360) 407-6989
email: bbaf461@ecy.wa.gov

WB: 11/19/01